Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Tuesday, May 08, 2012 1:54 PM
To: Han, Wei
Subject: Re: Public Notice

Thanks Wei.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Tuesday, May 08, 2012 02:33 PM
To: Flynn Stephanie M
Subject: Public Notice

Stephanie,

Attached is the public notice information for Koppers, including the local media names. Please let me know if you have any questions.

Wei Han
Illinois Environmental Protection Agency
BOA/DAPC/Permit Section
1021 North Grand Avenue E.
P.O. Box 19276
Springfield, IL 62794-9276

Phone: 217-785-1890
Fax: 217-524-5023
Email: Wei.Han@Illinois.gov

Illinois Environmental Protection Agency
Public Notice Order Form

Division: Air Permits

Ordered By: Bradley Frost Phone: 217/782-7027

Public Notice Number: C12 - 006

Newspaper or location where ad is to be placed: Lawndale News (5/10/2012) and Berwyn Cicero Stickney LIFE (5/16/2012)

Run Date(s): see above

Special Instructions:

Ad is to run as an ROP Display - NOT as a legal notice

Please typeset and border ad copy. Ad Size: 2 x 5

Authorizing Name: Brad Frost Date: May 8, 2012

Illinois Environmental Protection Agency

Notice of Public Comment Period for the Proposed Issuance of a Construction Permit to Koppers Industries, Inc. in Cicero

Koppers Industries, Inc. has applied to the Illinois EPA Bureau of Air for a permit to construct a new heater for Tar Distillation System #2 at its facility at 3900 South Laramie Avenue in Cicero. The new heater will replace the existing heater that serves this system. The project is not a major project for purposes of the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and the state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of sulfur dioxide, this is because there will not be a significant net increase in emissions considering the emissions decrease from the shut down of the existing heater.

Based on its review of the application, the Illinois EPA has made a preliminary determination that this project will comply with the applicable environmental regulations and has prepared a draft permit for public review.

The Illinois EPA is accepting comments prior to making a final decision on the application for this project. **Comments must be postmarked by midnight June 9, 2012.** If sufficient interest is expressed in this matter, a hearing or other informational meeting may be held. Comments, questions and requests for information, should be directed to Brad Frost, Bureau of Air, Illinois EPA, P. O. Box 19506, Springfield, IL 62794-9506, phone 217/782-2113, TDD 217/782-9143.

Persons wanting more information may view the draft permit and project summary at { HYPERLINK "http://www.epa.gov/reg5oair/permits/ilonline.html" } The repositories for these documents and the application are located at the Illinois EPA's offices at 9511 West Harrison in Des Plaines, 847/294-4000 and 1340 N. Ninth St., Springfield, 217/782-7027 (please call ahead to assure that someone will be available to assist you). Copies of the documents will be made available upon request.

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
Springfield, Illinois

Project Summary for a Construction Permit Application from Koppers Industries, Inc For a New Tube Heater for Tar Distillation System #2 at Its Manufacturing Plant in Cicero, Illinois

Site Identification No.: 031300AAJ
Application No.: 11100041
Date Received: October 24, 2011

Schedule
Public Comment Period Begins:
Public Comment Period Closes:

Illinois EPA Contacts
Permit Analyst: Wei Han/Minesh Patel
Community Relations Coordinator: Brad Frost

I. Introduction

Koppers Industries, Inc. (Koppers) has applied for construction permit for a new heater for Tar Distillation System #2 at its manufacturing plant in Cicero, Illinois. The new heater will replace the existing heater that serves this system.

The Illinois EPA has reviewed the application for a construction permit and made preliminary determination that the application meets applicable requirements. Accordingly, the Illinois EPA has prepared a draft of the construction permit that it would propose to issue for the proposed project. However, before issuing the permit, the Illinois EPA is holding a public comment period to receive comments on the proposed issuance of the construction permit and the terms and conditions of the draft of the construction permit.

II. Project Description

Tar Distillation System #2 processes crude coal tar to separate out different intermediate streams in the material, such as naphtha and refined chemical oil. The new heater will supply the thermal energy for the distillation process, heating the crude tar that is fed to the distillation column for processing. The new heater will also serve as the afterburner control device for the distillation column in the tar distillation system, combusting the process gases that pass through the condensers on the top of the column. The new heater will replace the existing heater. Like the existing heater, the new heater will use natural gas and process gas from the distillation process as its fuel. The new tube heater will be used in an identical way the existing heater is operated. For this project, Koppers has not requested any changes to the plant-wide emission limits as permitted by its Clean Air Act Permit Program (CAAPP), Permit 96030134.

The new heater would have a natural gas burner with a nominal capacity of 14 mmBtu/hour. It would be constructed from the external shell of an existing heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack. The project cost is estimated to be about 40 percent of a comparable new heater.

The principal air contaminants emitted from the heater would be sulfur dioxide (SO_2) and nitrogen oxide (NO_X). Volatile organic materials (VOM), carbon oxide (CO), and PM/PM_{10} are also emitted as products of combustion. The SO_2 is formed from sulfur compounds, i.e., carbonyl sulfide (COS), hydrogen sulfide (H_2S) and carbon disulfide (CS_2), in the process gas. These compounds are oxidized during combustion in the heater, converting the sulfur to SO_2. The natural gas fuel contains minimal amounts of sulfur. NO_X can be formed thermally by combination of oxygen and nitrogen in the air at the temperatures at which fuel is burned. Thermal NO_X is formed during the operation of all common high temperature combustion processes including natural gas tube heater. NO_X can also be formed from oxidation of any nitrogen in the process gas.

IV. Emissions

A summary of the future permitted or potential emissions of the new heater, as would be provided by the draft permit, is provided below in Table 1. These limits are based on the maximum emission rates provided in the application for operation at the requested level of production. Actual annual emissions of the heater would be less than these limits to the extent that the actual fuel consumption of the heater is lower than projected and the distillation system does not operate at its capacity.

Table 1: Summary of Permitted Emissions of the New Heater

Pollutant	Limit
	Tons/Year
CO	13.1
NO_x	26.2
PM/PM_{10}	2.2
SO_2	181.2
VOM	13.1

V. Applicable Emission Standards

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The new heater should readily comply with applicable emission standards of the State of Illinois (35 IAC Subtitle B, Subchapter c), since it will be essentially identical to the existing heater that it would replace.

This project will not affect applicable emission standards for Tar Distillation System #2, as addressed in the current Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134. Pursuant to applicable emission standards, the waste process gas from this system must be controlled by an afterburner or equivalent control device.[1]

VI. Applicability of New Source Review

The proposed project is not a major project for purposes of Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203, also known as nonattainment new source review (NA NSR). This project is not significant for emissions of pollutants other than SO_2.

While the project's emissions for SO_2 are significant, Koppers chose to evaluate the net change in SO_2 emissions at the source, considering the decrease in emissions of SO_2 that will accompany the shutdown of the existing heater. This evaluation involves summing all creditable increases and decreases in SO_2 emissions for the project as well as other creditable increases and decreases that have occurred over the contemporaneous time period. The results of this evaluation show that the net changes in SO_2 emissions for this project will be less than significant, i.e., an increase of 28.7 tons per year compared to the 40.0 ton per year significant emission rate for SO_2. The project shows an increase in SO_2 emissions because MSSCAM requires that this analysis account for the potential operation of the system and maximum sulfur content of waste gas, as compared to the actual levels of operation and

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[1] Tar Distillation System #2 is not subject to the National Emission Standards for Organic Hazardous Air Pollutants (NESHAP) from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H because the primary products manufactured by the system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

Tar Distillation System #2 is not subject to New Source Performance Standards (NSPS) for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN. This is because construction of the system commenced prior to December 30, 1983 and this project, which involves the heater for the system, would not entail a modification of this system for purposes of this NSPS.

actual levels of sulfur in process gas, which are the basis for data for past actual SO_2 emissions. A summary of this evaluation is provided in Attachment 1 of the draft permit.

VII. Draft Permit

The permit for the new heater would set forth the air pollution control requirements that apply to the heater, including the applicable emission standards. They also include the measures that must be used as good air pollution control practices to minimize emissions.

The permit would also establish requirements for the sampling and analyzing process waste gas for its sulfur content. It also sets limits on the emissions of the new heater. In addition to annual limits on emissions, the permit includes short-term emission limits. Operational monitoring is also required for the new heater as it serves as an afterburner for the process gases from the system, as needed to provide practical enforceability of emission limits.

The permit also establishes appropriate compliance procedures for the new tube heater, including requirements for emission testing, required work practices, operational monitoring, recordkeeping, and reporting. These measures are imposed to assure that the operation and emissions of the system are appropriately tracked to confirm compliance with both the short-term and annual emission limits established for emission units.

VIII. Request for Comments

It is the Illinois EPA's preliminary determination that the application for this project meets all applicable state and federal air pollution control requirements. The Illinois EPA is therefore proposing to issue a construction permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the conditions of the draft permit.

217/785-1705

CONSTRUCTION PERMIT (DRAFT)

PERMITTEE

Koppers Industries, Inc.
Attn: Richard Wagner
3900 South Laramie Avenue
Cicero, Illinois 60804

Application No.: 11100041 I.D. No.: 031300AAJ
Applicant's Designation: Date Received: October 24, 2011
Construction of: New Tube Heater for Tar Distillation System #2
Date Issued:
Source Location: 3900 South Laramie Avenue, Cicero, Cook County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emissions source(s) and/or air pollution control equipment consisting of a new Tube Heater for Tar Distillation System #2 as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

   a. This permit authorizes construction of a new heater (the affected unit) for Tar Distillation System #2 (the affected system). The affected unit will serve as the afterburner control device for waste process gases from the distillation column in the affected system and as the reboiler for the affected system, heating the feed to the distillation column. The affected unit would replace the existing afterburner-heater for the affected system. The new unit would be constructed from the shell of the heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack.

   b. This permit does not authorize any changes to the affected system that would increase its production capacity.

   c. This permit does not revise or relax requirements for the affected system, as addressed in the Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134.

2. Applicable Emission Standards

   a. The affected unit is subject to 35 IAC 212.123(a), which generally provides that the emissions of smoke or other PM, from emission units shall not have an opacity greater than 30 percent into atmosphere.

b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.

3. Non-Applicability Provisions

a. This permit is issued based on this project not being a major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of SO_2, the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)

b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H. This is because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN. because construction of the affected system is commenced prior to December 30, 1983.

4. Applicable Work Practices

a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.

b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBTU/hour.

c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.

d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit, the Permittee shall permanently shut down the existing heater for the affected system.

5. Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	3.0	13.1
NO_x	6.0	26.2
PM/PM_{10}	0.5	2.2
SO_2	41.4	181.2
VOM	3.0	13.1

6. Operational Monitoring

a. The combustion chamber temperature of the affected unit shall be maintained above 1,000 °F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.

b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

7. Requirements for Sampling and Analyzing of Process Waste Gas

a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H_2S, COS CS_2 and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least two more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.

b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system, sampling methodology, identity of analyst, the analysis methods and the results of the analysis.

c. The Permittee shall submit the results of each analysis to the Illinois EPA with the Annual Emission Reports following the analysis.

8. Testing Requirements

Within 60 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for NO_X and VOM emissions, and VOM control efficiency (comparing VOM in process waste gas and in the exhaust) of the affected unit. These tests shall be conducted by an approved independent testing service during conditions that are representative of maximum emission using standard USEPA test methods, as specified in the CAAPP permit for the source.

9. Recordkeeping Requirements

a. The Permittee shall maintain the following records for the affected unit:

i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.

ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.

b. The Permittee shall maintain the following records related to emissions of the affected unit:

i. The SO_2 emission factor and maximum hourly emission rates used by the Permittee to determine SO_2 emissions from the affected unit, with supporting documentation and calculations.

ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO_2 used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.

c. The Permittee shall maintain the following operating records for the affected system:

i The operating hour of the affected system (hours/month and hours/year).

ii. The natural gas usage of the affected unit (scf/month and scf/year).

iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations. This data and the data required by condition 9(c)(iv) may be determined directly or indirectly, being calculated from operating hours and/or operation data recorded for the affected system.

iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).

d. The Permittee shall maintain records of the monthly and annual CO, NO_x, PM, SO_2, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.

e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.

f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.

11. Two copies of required reports shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

12. The Permittee may operate the affected unit and system under this construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

If you have any questions on this, please contact Wei Han or Minesh Patel at 217/785-1705.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:WH

cc: Region 1

Attachment 1: Evaluation of Net Change in Emissions of SO_2 (Tons/Yr)

Project Increase[1]	181.2
Project Decrease[2]	-154.5
Contemporaneous Changes from Other Projects[3]	2.0
Net Emissions Change[4]	28.7
Significant Increase Level	40

Notes:

1. Project Increase is the permitted SO_2 emission of the affected unit.

2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2009 and 2010. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO_x, CO, VOM and PM/PM_{10}, projected at 11.6, 1.3, 5.0 and 0.4 tons/year, respectively.

3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO_2 from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO_2 emission of the thermal oxidizer for the pitch tanks and other equipment, as addressed by Construction Permit 08040005.

4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

217/785-1705

CONSTRUCTION PERMIT (DRAFT)

PERMITTEE

Koppers Industries, Inc.
Attn: Richard Wagner
3900 South Laramie Avenue
Cicero, Illinois 60804

Application No.: 11100041 I.D. No.: 031300AAJ
Applicant's Designation: Date Received: October 24, 2011
Construction of: New Tube Heater for Tar Distillation System #2
Date Issued:
Source Location: 3900 South Laramie Avenue, Cicero, Cook County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emissions source(s) and/or air pollution control equipment consisting of a new Tube Heater for Tar Distillation System #2 as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

   a. This permit authorizes construction of a new heater (the affected unit) for Tar Distillation System #2 (the affected system). The affected unit will serve as the afterburner control device for waste gases from the distillation column in the affected system and as the reboiler for the affected system, heating the feed to the distillation column. To have sufficient heat input to serve as an afterburner and as a reboiler, the affected unit would have a natural gas-fired burner with a nominal capacity of 14 mmBtu/hour. The affected unit would replace the existing afterburner-heater for the affected system. The new unit would be constructed from the shell of the heater for the Naphthalene Distillation System, which has been idle for a number of years, and various new components, i.e., new burner systems, fuel train, heat exchange tubing and exhaust stack.

   b. This permit does not authorize any changes to the affected system that would increase its production capacity.

   c. This permit does not revise or relax requirements for the affected system, as addressed in the Clean Air Act Permit Program (CAAPP) for the source, Permit 96030134.

2. Applicable Emission Standards

   a. The affected unit is subject to 35 IAC 212.123(a), which generally provides that the emissions of smoke or other PM, from

emission units shall not have an opacity greater than 30 percent into atmosphere.

b. The affected unit is subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2,000 ppm.

3. Non-Applicable Provisions

a. This permit is issued based on this project not being a major modification under federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. For emissions of SO_2, the net increase in emissions will not be significant after considering the decrease in emission that will occur from the shutdown of the existing emission heater. (See Attachment 1)

b. The affected system is not subject to the National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry, etc., 40 CFR 63 Subparts F, G, and H because the primary products manufactured by the affected system are not listed in 40 CFR 63.100(b)(1)(i) or (b)(1)(ii).

c. The affected system is not subject to Standards of Performance for New Stationary Sources for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, 40 CFR 60 Subpart NNN because construction of the affected system is commenced prior to December 30, 1983.

4. Applicable Work Practices

a. Natural gas and the process waste gas from the plant shall be the only fuels fired in the affected unit.

b. The total rated capacity of the natural gas burners in the affected unit shall not exceed 14 mmBTU/hour.

c. The Permittee shall operate and maintain the affected system in accordance with written procedures developed and maintained by the Permittee. These procedures shall provide for good air pollution control practices to minimize emissions and shall include the Permittee's standard operating procedures for startup, normal operation, and shutdown of the affected system and address likely malfunction and upsets events for the affected system.

d. Upon completion of shakedown of the affected unit but in no case later than 180 days after initial startup of the affected unit,

the Permittee shall permanently shut down the existing heater for the affected system.

5. Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	3.0	13.1
NO_x	6.0	26.2
PM/PM_{10}	0.5	2.2
SO_2	41.4	181.2
VOM	3.0	13.1

6. Operational Monitoring

a. The combustion chamber temperature of the affected unit shall be maintained above ___°F or at a temperature that is consistent with the manufacturer's recommended minimum operating temperature or, once testing has been conducted demonstrating compliance with applicable requirements, the minimum operating temperature during emission testing.

b. The combustion chamber of the affected unit shall be preheated to the manufacturer's recommended temperature or a temperature that is consistent with the most recent emission test in which compliance was demonstrated, prior to operating the affected system. The affected unit shall be equipped with a combustion chamber temperature indicator and strip chart recorder (or other approved digital storage device). This device shall record the temperature of the exhaust gases at the exit of the chamber combustion zone of the affected unit.

7. Requirements for Sampling and Analyzing of Process Waste Gas

a. The Permittee shall conduct representative sampling for the process waste gas sent to the affected unit. The samples shall be analyzed for sulfur content (percent by volume, for H_2S, COS CS_2 and total sulfur) and heat content (Btu/cubic foot) of the process waste gas. This sampling and analysis of the process waste gas shall initially be conducted within 180 days of the initial startup of the affected unit. Thereafter, at least two more samples shall be taken and analyzed, between 9 and 12 month of the previous sampling and analysis.

b. The Permittee shall keep records for this activity, including the date of sampling and operating condition of the affected system, sampling methodology, identity of analyst, the analysis methods and the results of the analysis.

c. The Permittee shall submit the results of each analysis to the Illinois EPA with the Annual Emission Reports following the analysis.

8. Testing Requirements

Within 60 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for NO_x and VOM emissions, and VOM control efficiency (comparing VOM in process waste gas and in the exhaust) of the affected unit. These tests shall be conducted by an approved independent testing service during conditions that are representative of maximum emission using standard USEPA test methods, as specified in the CAAPP permit for the source.

9. Recordkeeping Requirements

a. The Permittee shall maintain the following records for the affected unit:

i. The rated heat input of the natural gas burners in the affected unit, mmBtu/hour, with supporting documentation.

ii. Design data for the maximum and typical rate of process waste gas combusted (scf/hour and mmBtu/hour), i.e., used as the fuel for the affected unit, and typical gross and net heat content of the process waste gas.

iii. A demonstration that the affected unit complies with 35 IAC 214.301 and 218.966.

b. The Permittee shall maintain the following records related to emissions of the affected unit:

i. The SO_2 emission factor and maximum hourly emission rates used by the Permittee to determine SO_2 emissions from the affected unit, with supporting documentation and calculations.

ii. The hourly emission rates or emission factors, and maximum hourly emission rates for emissions of pollutants other than SO_2 used by the Permittee to determine emissions of the affected unit, with supporting documentation and calculations.

c. The Permittee shall maintain the following operating records for the affected system:

i The operating hour of the affected system (hours/month and hours/year).

ii. The natural gas usage of the affected unit (scf/month and scf/year).

iii. The amount of process waste gas generated by the affected system (scf/month and scf/year), with supporting calculations. This data and the data required by condition 9(c)(iv) may be determined directly or indirectly, being calculated from operating hours and/or operation data recorded for the affected system.

iv. The amount of process waste gas sent to the affected unit (scf/month and scf/year).

d. The Permittee shall maintain records of the monthly and annual CO, NO_x, PM, SO_2, and VOM emissions from the affected unit based on appropriate emission rates or factors and operating data, with supporting calculations.

e. The Permittee shall maintain records for upsets in the operation of the affected unit that could generate additional emissions, with a description of the incident, explanation, and corrective actions and any preventative measures taken, and an estimate of the additional emissions that occurred, with supporting calculations and background information.

f. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

10. If there is a deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA within 30 days after the deviation or such later time as specified in the CAAPP permit at the source. The report shall describe the deviation, the probable cause of deviation, the corrective actions that were taken, and any action taken to prevent future occurrences.

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and one copy shall be sent to the Illinois EPA's regional office:

Illinois Environmental Protection Agency

Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

12. The Permittee may operate the affected unit and system under this construction permit until the CAAPP permit is revised to address this unit. This Condition supersedes Standard Condition 6.

If you have any questions on this, please contact Wei Han or Minesh Patel at 217/785-1705.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:WH

cc: Region 1

Attachment 1: Evaluation of Net Change in Emissions of SO_2 (Tons/Yr)

Project Increase[1]	181.2
Project Decrease[2]	-154.5
Contemporaneous Changes from Other Projects[3]	2.0
Net Emissions Change[4]	28.7
Significant Increase Level	40

Notes:

1. Project Increase is the permitted SO_2 emission of the affected unit.

2. Project Decrease, for the shutdown of existing heater for Tar Distillation System #2, is based on data for actual operation of existing heater provided in the application for 2009 and 2010. The shutdown of the existing heater will also be accompanied by decreases in emissions of NO_X, CO, VOM and PM/PM_{10}, projected at 11.6, 1.3, 5.0 and 0.4 tons/year, respectively.

3. Contemporaneous Changes in emission from other projects accounts for the increase and decrease in emissions of SO_2 from other project that occurred at the source during the applicable five-year contemporaneous period (February 2007 to February 2012). It includes permitted SO_2 emission of the thermal oxidizer for the pitch tanks and other equipment, as allowed by Construction Permit 08040005.

4. Net Emission change is the total of Project Emissions, Project Decrease and Contemporaneous Changes.

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Wednesday, May 02, 2012 5:56 PM
To: Han, Wei
Subject: Re: Update

Wei

Thanks. We will let you know by this Friday.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Wednesday, May 02, 2012 06:49 PM
To: Flynn Stephanie M
Cc: Patel, Minesh <Minesh.Patel@Illinois.gov>
Subject: RE: Update

Stephanie,

Attached are the project summery and the permit for your QUICK review. Please let me know if you have any MAJOR comments. We would like to hear from you by this Friday. After that, we will start the public comment period. I will let you know the media where the public notice goes. Thank you.

Wei Han
Illinois Environmental Protection Agency
BOA/DAPC/Permit Section
1021 North Grand Avenue E.
P.O. Box 19276
Springfield, IL 62794-9276

Phone: 217-785-1890
Fax: 217-524-5023
Email: Wei.Han@Illinois.gov

From: Flynn Stephanie M [mailto:FlynnSM@koppers.com]
Sent: Tuesday, May 01, 2012 4:14 PM
To: Han, Wei
Subject: Update

Hi Wei,

Do we have any update of when the draft permit is going out for Public notice.

Thanks,
Stephanie
Koppers Inc.
(708) 222-3481

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Tuesday, May 01, 2012 4:14 PM
To: Han, Wei
Subject: Update

Hi Wei,

Do we have any update of when the draft permit is going out for Public notice.

Thanks,
Stephanie
Koppers Inc.
(708) 222-3481

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Monday, April 16, 2012 12:50 PM
To: Han, Wei
Cc: 'Bernie Evans'; Flynn Stephanie M
Subject: Greenhouse Gas Emissions- #2 Tube Heater
Attachments: GHG Emissions for Tube Heater_Final.xls

Wei,

Per your request are the Greenhouse Gas Emissions for the #2 Tube Heater. Please contact me if you have any questions.

Thanks again.

Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

Maximum Annual GHG Emission Calculations for New Tube Heater
Koppers, Inc.
Stickney, Illinois

					CO_2 Emissions			CH_4 Emissions			N_2O Emissions				
Unit Name	Heat Input Value	Source Location / Description	Fuel	Heat Input for Gas (therms/yr)	Emission Factor (kg/MMBTU)	Annual Emissions (tonnes/yr)	Annual CO2e Emissions by Unit (tonnes/yr)	Emission Factor (kg/MMBTU)	Annual Emissions (tonnes/yr)	Annual CO2e Emissions by Unit (tonnes/yr)	Emission Factor (kg/MMBTU)	Annual Emissions (tonnes/yr)	Annual CO2e Emissions by Unit (tonnes/yr)	Total CO_2e (tonnes/yr)	Total CO_2e (tons/yr)
#2 Tube Heater	14 mmBtu/hour	Distillation Stills	Natural Gas	1,226,400	53.02	6,502.4	6,502.4	0.001	0.123	2.6	0.0001	0.0123	3.8	6,508.8	7,172.6

Emission Factors and Heat Content from Table C-1 and C-2

Fuel Type	Default High Heat Value	High Heating Value Units	Default CO_2 Emission Factor (kg/MMBTU)	Default CH_4 Emission Factor (kg/MMBTU)	Default N_2O Emission Factor (kg/MMBTU)
NG	1.028E-03	MMBTU/scf	53.02	0.001	0.0001

Fuel Use	Btu/Year	Therms/Year
Maximum Annual Gas Usage in Therms	1.2264E+11	1,226,400

Pollutant	Global Warming Potential
CO_2	1
CH_4	21
N_2O	310

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Monday, April 09, 2012 10:16 AM
To: Han, Wei
Subject: RE: Draft Permit

Wei,

Thanks for your quick review. We will look over and get back to you. Target is later this week.

Thanks,

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Monday, April 09, 2012 9:54 AM
To: Flynn Stephanie M; Patel, Minesh
Cc: 'Bernie Evans'; Wagner Richard
Subject: RE: Draft Permit

Stephanie and Bernie,

Attached is the draft permit revised from your comments of April 3 2012. We need your input for condition 6(a), which is the temperature of combustion chamber. Please let me know if you have any questions.

Wei Han
Illinois Environmental Protection Agency
BOA/DAPC/Permit Section
1021 North Grand Avenue E
P.O. Box 19276
Springfield, IL 62794-9276

Phone: 217-785-1890
Fax: 217-524-5023
Email: Wei.Han@illinois.gov

From: Flynn Stephanie M [mailto:FlynnSM@koppers.com]
Sent: Tuesday, April 03, 2012 4:29 PM
To: Han, Wei; Patel, Minesh
Cc: 'Bernie Evans'; Wagner Richard; Flynn Stephanie M
Subject:

Minesh and Wei,

Attached is Koppers response letter comments for the #2 Tube Heater Draft IEPA Construction Permit. A hard copy of the attached letter has been sent UPS overnight for tomorrow delivery to the agency.

Thanks,

Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Tuesday, April 03, 2012 4:29 PM
To: Han, Wei; Patel, Minesh
Cc: 'Bernie Evans'; Wagner Richard; Flynn Stephanie M
Attachments: Response Letter - Draft IEPA Construction Permit 04032012.pdf

Minesh and Wei,

Attached is Koppers response letter comments for the #2 Tube Heater Draft IEPA Construction Permit. A hard copy of the attached letter has been sent UPS overnight for tomorrow delivery to the agency.

Thanks,

Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

Koppers Inc.
Carbon Materials and Chemicals
3900 South Laramie Avenue
Cicero, IL 60804-4523
Tel 708 222 3483
Fax 708 656 6079
www.koppers.com

Via Email and UPS Overnight

April 3, 2012

Mr. Minesh Patel
Illinois Environmental Protection Agency
Bureau of Air (MC 11)
1021 N. Grand Avenue East
Springfield, IL 62702

RE: Koppers Inc., Stickney Plant
ID Number: 031300AAJ
Preliminary Draft Construction Permit for #2 Tube Heater

Dear Mr. Patel:

Thanks you for the opportunity to review a preliminary draft construction permit for a new tube heater for Tar Distillation System #2 at Koppers' Stickney, Illinois facility. Please find below our comments on the preliminary draft as discussed with you and Mr. Wei Han on March 26, 2012.

Condition 2.c. Koppers has requested, and IEPA has agreed to look into the applicability of this requirement to the distillation system/tube heater. Koppers pointed out that the CAAPP Permit 96030134 cites 218.301, 218.302 and 218.966 as applicable requirements and to avoid confusion, Koppers wishes to clarify correct rule applicability for VOM emissions.

5. Emissions Limits - Koppers provides the revised table as the correct limits to include in the table for this permit condition. The revised table includes the combined still (combusted in tube heater) emissions and natural gas combustion emissions.

Emission Limits

The emissions of affected system shall not exceed the following limits. Compliance with the annual limits shall be determined from a running total of 12 months of data.

Pollutant	Limit	
	Lbs/Hour	Tons/Year
CO	3	10
NO_x	6	20
PM/PM_{10}	0.5	2
SO_2	41.4	181.2
VOM	3	10

7. a. Koppers requests that IEPA reduce the number of tests required in this condition and to clarify the frequency of testing. Koppers requests one initial test and one confirming test between 9 and 12 months of the previous sampling and analysis.

7.c. Koppers requests that IEPA clarify that the permitee shall submit the results of the testing to IEPA one time in the AER following testing, and to update the results if testing is repeated in the future.

9.c.iii. and iv. IEPA explained to Koppers that the purpose of these two conditions is to provide a method to determine actual SO2 emissions. Yet, Condition 9.b.i. requires Koppers to establish an SO2 emission factor and maximum hourly emission rate used to determine SO2 emissions from the distillation system. Koppers submits to the agency that a conservative estimate of actual emissions from the distillation system can be based on the maximum hourly SO2 emission rate applied to the actual hours of operation of the distillation system during the reporting period. This approach will avoid the costly and problematic measurements of the flow of the process waste gas required in 9.c.iii. and iv.

9.e Koppers requested, and IEPA agreed to clarify in the permit that the requirement to maintain records for upsets in the operation are exclusive of times when the process gases are routed to the existing thermal oxidizer.

If there are any other questions with regards to the preliminary draft construction permit, comments please do not hesitate to contact Stephanie Flynn, Stickney Plant Environmental Manager at 708-222-3481.

Sincerely,

Richard W. Wagner
Plant Manager

cc: Bernard Evans, P.E.; ERM, Inc.
John Irvine, Koppers Inc.

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, March 23, 2012 10:59 AM
To: Han, Wei
Subject: RE: Monday's call

Wei,

Thanks. Have a great weekend.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, March 23, 2012 10:54 AM
To: Flynn Stephanie M
Cc: Patel, Minesh
Subject: RE: Monday's call

Stephanie,

I have reserved the conference room for Monday 10:30 am. Here is the phone number: 217-557-2438. Talk to you on Monday.

Have a good weekend.

Wei Han
Illinois Environmental Protection Agency
BOA/DAPC/Permit Section
1021 North Grand Avenue E.
P.O. Box 19276
Springfield, IL 62794-9276

Phone: 217-785-1890
Fax: 217-524-5023
Email: Wei.Han@Illinois.gov

From: Flynn Stephanie M [mailto:FlynnSM@koppers.com]
Sent: Friday, March 23, 2012 10:25 AM
To: Han, Wei
Subject: Monday's call

Wei,

We can call your conference room on Monday at 10:30. Can you provide the number on Monday. We have to patch in Bernie Evans, ERM to the call so it is easier from a logistics standpoint if we call you.

Thanks,

Stephanie
(708) 222-3481

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, March 23, 2012 10:25 AM
To: Han, Wei
Subject: Monday's call

Wei,

We can call your conference room on Monday at 10:30. Can you provide the number on Monday. We have to patch in Bernie Evans, ERM to the call so it is easier from a logistics standpoint if we call you.

Thanks,

Stephanie
(708) 222-3481

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Thursday, March 22, 2012 7:31 AM
To: Han, Wei
Subject: I was out of the office until today

Wei,

I was out of the office this week until today. I had access to my email but not my office phone messages. I apologize for the delay in getting back to you and Minesh. I am in the office today. I would like to set up a time early next week for the call.

Thanks,

Stephanie
(708) 222-3481

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Wednesday, March 21, 2012 4:40 PM
To: Han, Wei
Subject: Call

Wei

Do we have a time set up yet for the call.

Stephanie
Koppers

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, March 16, 2012 5:31 PM
To: Han, Wei
Cc: 'Bernie Evans'; Patel, Minesh
Subject: RE: Conference Call- Koppers Draft permit

Wei,

Thanks for the quick response back. Have a great weekend.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, March 16, 2012 5:30 PM
To: Flynn Stephanie M
Cc: 'Bernie Evans'; Patel, Minesh
Subject: RE: Conference Call- Koppers Draft permit

I will check with Minesh and let you know next week.

Wei Han
Illinois Environmental Protection Agency

Phone: 217-785-1890
Fax: 217-524-5023
Email: Wei.Han@Illinois.gov

From: Flynn Stephanie M [mailto:FlynnSM@koppers.com]
Sent: Friday, March 16, 2012 4:46 PM
To: Han, Wei
Cc: 'Bernie Evans'
Subject: Conference Call- Koppers Draft permit

Wei,

Can we have a conference call with you and Minesh regarding Koppers Draft permit. We are looking at the early part of the week of March 26, if that meets your schedules.

Thanks,
Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, March 16, 2012 4:46 PM
To: Han, Wei
Cc: 'Bernie Evans'
Subject: Conference Call- Koppers Draft permit

Wei,

Can we have a conference call with you and Minesh regarding Koppers Draft permit. We are looking at the early part of the week of March 26, if that meets your schedules.

Thanks,
Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Thursday, February 16, 2012 4:17 PM
To: Han, Wei
Subject: RE: Draft Permit for #2 Tube Heater "Reconstruction"- Koppers

Wei,

Thanks. We will review.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Thursday, February 16, 2012 4:11 PM
To: Flynn Stephanie M
Cc: bernie.evans@erm.com; Patel, Minesh
Subject: Draft Permit for #2 Tube Heater "Reconstruction"- Koppers

Hi, Stephanie,

Attached is the draft permit for your review, comments and suggestions. Please let us know if you have any questions.

Thank you.

Wei Han, Permit Engineer
BOA/Illinois EPA
1201 North Grand Avenue E.
Springfield, IL 62794

Phone: 217-785-1890
Email: Wei.Han@Illinois.gov

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Monday, February 06, 2012 12:13 PM
To: Han, Wei; Patel, Minesh
Subject: Revised response letter-typo
Attachments: Response Letter- #2 Tube Heater Reconstruction Koppers Inc.pdf

Wei and Minesh,

On page 2 of the Koppers response letter I spotted a typo. On page 2 of the letter, Drawing ACH-0336 is the correct drawing number. I have attached the updated response letter with the corrected drawing number. The hard copy of this attached response letter will be sent with the previous attachments overnight to the agency. If you have any questions, please contact me.

Thanks,

Stephanie
(708) 222-3481

February 6, 2012

Koppers Inc.
Carbon Materials and Chemicals
3900 South Laramie Avenue
Cicero, IL 60804-4523
Tel 708 222 3483
Fax 708 656 6079
www.koppers.com

Mr. Minesh Patel
Illinois Environmental Protection Agency
Bureau of Air (MC 11)
1021 N. Grand Avenue East
Springfield, IL 62702

RE: Koppers Inc., Stickney Plant
ID Number: 031300AAJ
Questions Regarding the Air Construction Permit Application for the #2 Tube Heater Reconstruction

Dear Mr. Patel:

This letter is in response to questions posed by you and Mr. Wei Han during your review of the #2 Tube Heater Reconstruction air construction permit application. This new heater will serve the existing #2 still (TPDS2) in the tar distillation process and will be called the #2 Tube Heater (F201).

The questions identified in the email to Koppers on January 20, 2012 are addressed below:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.

   Koppers Response: The volumetric flow rate of process waste gas to the reconstructed #2 process heater will be the same as the flow rate to the existing #2 process heater. In 1985 the volumetric flow rate on the existing #2 process heater was 595 scfm including water vapor. The composition of this waste gas is shown in the column, "% by vol. wet" in the attached spreadsheet titled "#2 Tubeheater Waste Gas Composition and Heat of Combustion".

2. Data for the actual sulfur content of this process gas.

   Koppers Response: The sulfur containing compounds in the waste gas have been identified as carbonyl sulfide 0.270%; hydrogen sulfide 0.157%; and carbon disulfide 0.199%. These percentages are volumetric, wet basis.

3. Data for the heat content of this process gas.

   Koppers Response: Using individual heat of combustion values for the combustible components in the waste gas, the hourly heat release is 4.3 million BTUs or 119 BTU/scf. The combined burner capacity for the natural gas (14 MMBtu/hr) and the waste gas from the #2 still (4.3 MMBtu/hr) is 18.3 MMBtu/hr. The Tube Heater has process controls that maintain the fuel burning of the two gases to meet the heating demands of the still, so under typical operations, natural gas firing is reduced by a corresponding amount provided by the process gas.

4. Detailed supporting calculations for the actual SO2 emissions of the No. Tar Still during the baseline time period.

Koppers Response: Derivation of the SO2 emissions is provided in the attachment titled "#2 Tubeheater Waste Gas Composition and Heat of Combustion". Assuming total conversion of the sulfur component of the sulfur containing compounds, the emission rate is 40.29 lbs/hr of sulfur dioxide.

An SO2 emission rate of 41.4 lbs/hr from the stills through the tube heaters was reported by Koppers as the basis of the SO2 emission calculations in this Air Construction Permit Application. The rate of 41.4 lbs/hr is conservative and slightly overstates SO2 emissions in comparison to the derived rate of 40.29 lbs/hr.

5. A simple diagram of the tube heater describing its layout, including burner(s),* combustion chamber and convection section, where tar is heated.

* In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

Koppers Response: Drawing ACH-0336 is an elevation view of the reconstructed #2 Tube Heater showing the locations of the burner, the combustion chamber, and the convection section. Drawing BCH-0069 shows the burner configuration and the locations of the natural gas and waste gas nozzles.

During a telephone conference call with IEPA on 01/23/2012, some confusion occurred regarding what process and other gases may be burned in this tube heater. Koppers has determined that the process diagram in the application did not clearly depict that only process gases from the #2 still can be burned in the reconstructed #2 Tube Heater. Corrections to the process diagram are included as an attachment to this letter.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.

Koppers Response: We understand that this tube heater will be treated as a new emission unit for purposes of this construction permit. As provided in the cover letter and Attachment A to the application, the #5 Tube Heater was an existing natural gas-fired combustion device at this location and was originally permitted with the IEPA as the "Naphthalene Heater F001"in 1979. The #5 tube heater was put out of service and mothballed in the late 1980's. At the time of the application for the initial Clean Air Act Permit Program (CAAPP) permit in the early 1990's, Koppers chose to keep the #5 tube heater out of service and did not include the heater in the original CAAPP permit application. The foundation and casing of the #5 tube heater will be used in the reconstructed #2 Tube Heater.

7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

Koppers Response: As described in item 5 above, the reconstucted #2 Tube Heater will typically burn both natural gas and process gases from the still in an identical way that the existing #2 Tube Heater is currently fired with these gases today. The existing #2 Tube Heater serves as a control device for destruction of hazardous air pollutants (HAPs) as provided in 40 CFR 63 Subpart FFFF and also converts hydrogen sulfide (H2S) from the #2 still to SO_2 at a rate described in item 4 above. Koppers understands that the applicable SO2 emission rate from the process has been IAC 214.301 which limits emission of sulfur dioxide into the atmosphere from any process emission source to less than or equal to 2000 ppm.

If there are any other questions with regards to this letter or attachments, please do not hesitate to contact Stephanie Flynn, Stickney Plant Environmental Manager at 708-222-3481.

Sincerely,

Richard W. Wagner
Plant Manager

Attachments: #2 Tubeheater Waste Gas Composition and Heat of Combustion, 1-30-2012

Drawing ACH-0336, New No. 2 Tube Heater (F201), 1-26-11

Drawing BCH-0069, Burner Detail Natural/Waste Gas Tar Reboiler, 1-26-2012

Drawing BCH-0067 r. 2, (Revised Process Diagram), 1-24-2012

cc: Bernard Evans, P.E.; ERM, Inc.
John Irvine, Koppers Pittsburgh

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Monday, February 06, 2012 10:49 AM
To: Han, Wei
Cc: bernie.evans@erm.com; Patel, Minesh; Wagner Richard
Subject: #2 Tube Heater "Reconstruction"- Koppers Response
Attachments: Koppers Response Letter #2 Tube Heater Reconstruction.pdf; #2 Tubeheater Waste Gas Composition and Heat of Combustion.pdf; BCH0067R02.pdf; ACH0336R00 (4).pdf; BCH0069R00.pdf

Wei and Minesh,

Attached is Koppers response to your below requested information. A hard copy of the response letter and attachments will be sent overnight for tomorrow delivery to the agency.

Thanks,

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, January 20, 2012 10:08 AM
To: Flynn Stephanie M
Cc: bernie.evans@erm.com; Patel, Minesh; Romaine, Chris
Subject: #2 Tube Heater "Reconstruction"

Hi, Stephanie,

Additional information is needed to support this application:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.

2. Data for the actual sulfur content of this process gas.

3. Date for the heat content of this process gas.

4. Detailed supporting calculations for the actual SO2 emissions of the No. Tar Still during the baseline time period.

5. A simple diagram of the tube heater describing its layout, including burner(s),* combustion chamber and convection section, where tar is heated.

   * In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.

7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

The need for this information became apparent when it was realized that the new natural gas fired burner for the tube heater represented the total "fuel input" to the tube heater. As such the emission information in the application would indicate an SO2 emission rate of approximately 3 lbs of SO2/mmBtu from the tube heater, comparing the hourly SO2 rate, 41.4 lbs/hr, and the maximum fuel heat input, 14 mmBtu/hr. This is in excess of the emission rate that would be allowed for the unit as a fuel combustion by 35 IAC 214.122(b)(1) and 214.162(a) and (c)(1), i.e., emissions of 1.0 lb of SO2 per mmBtu for only the heat input from the process gas.

Thank you.

Wei Han, Permit Engineer
BOA/Illinois EPA
1201 North Grand Avenue E.
Springfield, IL 62794

Phone: 217 785 1890
Email: Wei.Han@Illinois.gov

February 6, 2012

Koppers Inc.
Carbon Materials and Chemicals
3900 South Laramie Avenue
Cicero, IL 60804-4523
Tel 708 222 3483
Fax 708 656 6079
www.koppers.com

Mr. Minesh Patel
Illinois Environmental Protection Agency
Bureau of Air (MC 11)
1021 N. Grand Avenue East
Springfield, IL 62702

RE: Koppers Inc., Stickney Plant
ID Number: 031300AAJ
Questions Regarding the Air Construction Permit Application for the #2 Tube Heater Reconstruction

Dear Mr. Patel:

This letter is in response to questions posed by you and Mr. Wei Han during your review of the #2 Tube Heater Reconstruction air construction permit application. This new heater will serve the existing #2 still (TPDS2) in the tar distillation process and will be called the #2 Tube Heater (F201).

The questions identified in the email to Koppers on January 20, 2012 are addressed below:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.

   Koppers Response: The volumetric flow rate of process waste gas to the reconstructed #2 process heater will be the same as the flow rate to the existing #2 process heater. In 1985 the volumetric flow rate on the existing #2 process heater was 595 scfm including water vapor. The composition of this waste gas is shown in the column, "% by vol. wet" in the attached spreadsheet titled "#2 Tubeheater Waste Gas Composition and Heat of Combustion".

2. Data for the actual sulfur content of this process gas.

   Koppers Response: The sulfur containing compounds in the waste gas have been identified as carbonyl sulfide 0.270%; hydrogen sulfide 0.157%; and carbon disulfide 0.199%. These percentages are volumetric, wet basis.

3. Data for the heat content of this process gas.

   Koppers Response: Using individual heat of combustion values for the combustible components in the waste gas, the hourly heat release is 4.3 million BTUs or 119 BTU/scf. The combined burner capacity for the natural gas (14 MMBtu/hr) and the waste gas from the #2 still (4.3 MMBtu/hr) is 18.3 MMBtu/hr. The Tube Heater has process controls that maintain the fuel burning of the two gases to meet the heating demands of the still, so under typical operations, natural gas firing is reduced by a corresponding amount provided by the process gas.

4. Detailed supporting calculations for the actual SO2 emissions of the No. Tar Still during the baseline time period.

Koppers Response: Derivation of the SO2 emissions is provided in the attachment titled "#2 Tubeheater Waste Gas Composition and Heat of Combustion". Assuming total conversion of the sulfur component of the sulfur containing compounds, the emission rate is 40.29 lbs/hr of sulfur dioxide.

An SO2 emission rate of 41.4 lbs/hr from the stills through the tube heaters was reported by Koppers as the basis of the SO2 emission calculations in this Air Construction Permit Application. The rate of 41.4 lbs/hr is conservative and slightly overstates SO2 emissions in comparison to the derived rate of 40.29 lbs/hr.

5. A simple diagram of the tube heater describing its layout, including burner(s),* combustion chamber and convection section, where tar is heated.

* In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

Koppers Response: Drawing ACH-0336 is an elevation view of the reconstructed #2 Tube Heater showing the locations of the burner, the combustion chamber, and the convection section. Drawing BCH-0069 shows the burner configuration and the locations of the natural gas and waste gas nozzles.

During a telephone conference call with IEPA on 01/23/2012, some confusion occurred regarding what process and other gases may be burned in this tube heater. Koppers has determined that the process diagram in the application did not clearly depict that only process gases from the #2 still can be burned in the reconstructed #2 Tube Heater. Corrections to the process diagram are included as an attachment to this letter.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.

Koppers Response: We understand that this tube heater will be treated as a new emission unit for purposes of this construction permit. As provided in the cover letter and Attachment A to the application, the #5 Tube Heater was an existing natural gas-fired combustion device at this location and was originally permitted with the IEPA as the "Naphthalene Heater F001"in 1979. The #5 tube heater was put out of service and mothballed in the late 1980's. At the time of the application for the initial Clean Air Act Permit Program (CAAPP) permit in the early 1990's, Koppers chose to keep the #5 tube heater out of service and did not include the heater in the original CAAPP permit application. The foundation and casing of the #5 tube heater will be used in the reconstructed #2 Tube Heater.

7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

Koppers Response: As described in item 5 above, the reconstucted #2 Tube Heater will typically burn both natural gas and process gases from the still in an identical way that the existing #2 Tube Heater is currently fired with these gases today. The existing #2 Tube Heater serves as a control device for destruction of hazardous air pollutants (HAPs) as provided in 40 CFR 63 Subpart FFFF and also converts hydrogen sulfide (H2S) from the #2 still to SO_2 at a rate described in item 4 above. Koppers understands that the applicable SO2 emission rate from the process has been IAC 214.301 which limits emission of sulfur dioxide into the atmosphere from any process emission source to less than or equal to 2000 ppm.

If there are any other questions with regards to this letter or attachments, please do not hesitate to contact Stephanie Flynn, Stickney Plant Environmental Manager at 708-222-3481.

Sincerely,

Richard W. Wagner
Plant Manager

Attachments: #2 Tubeheater Waste Gas Composition and Heat of Combustion, 1-30-2012

Drawing ACH-0336, New No. 2 Tube Heater (F201), 1-26-11

Drawing BCH-0069, Burner Detail Natural/Waste Gas Tar Reboiler, 1-26-2012

Drawing BCH-0067 r. 2, (Revised Process Diagram), 1-24-2012

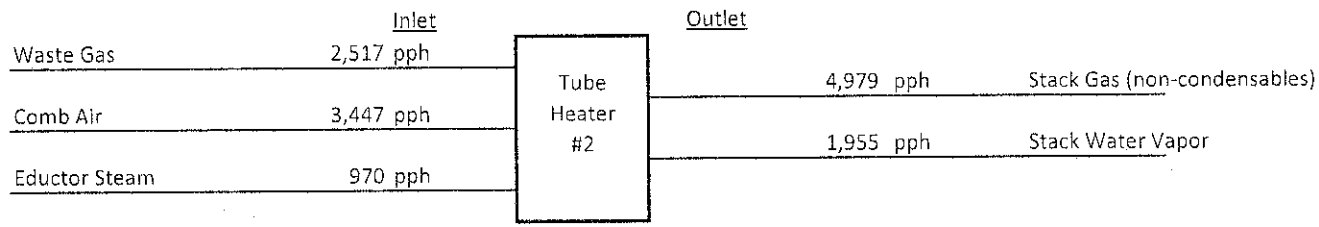
cc: Bernard Evans, P.E.; ERM, Inc.
John Irvine, Koppers Pittsburgh

#2 Tubeheater Waste Gas Composition and Heat of Combustion

Jan 30, 2012

Waste gas flow rate, scfm (wet)*	595
Stack Gas Temp, F	800
Eductor Steam Flow, pph	970
Excess Oxygen (for waste gas) %	30

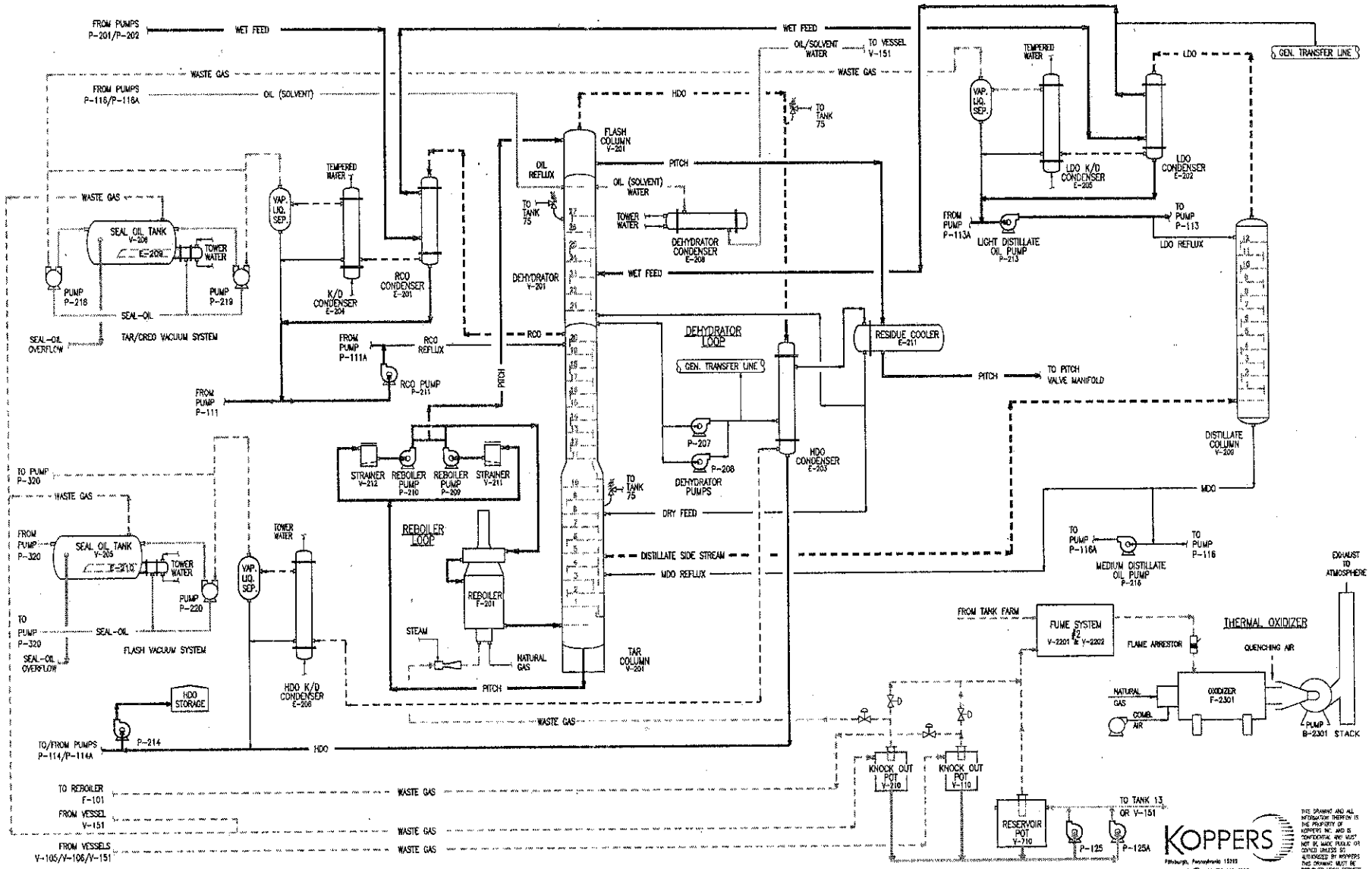
Component	Formula	Mol Wt	% by vol. wet *	Stoic. Oxygen Reqd mole O2 /mole HC	# O2/# HC	Stoic. H2O Prod mole H2O /mole HC	#H2O/# HC	Waste Gas lbs./100 scf	Waste Gas lbs./hr	Stoic. O2 Req'd lbs O2/hr	H2O Prod lbs H2O/hr	SO2 Prod lbs SO2/hr	Ht of comb BTU/lb	Gross Ht Release BTU/hr
Benzene	C6H6	78	0.40	7.50	3.08	3.00	0.69	0.09	31.03	95.47	21.48	0.00	17,480	542,338
Toluene	C7H8	92	0.30	9.00	3.13	4.00	0.78	0.08	27.45	85.92	21.48	0.00	17,620	483,603
Xylene	C8H10	106	0.30	10.50	3.17	5.00	0.85	0.09	31.62	100.24	26.85	0.00	17,760	561,622
Styrene	C8H8	104	0.10	10.00	3.08	4.00	0.69	0.03	10.34	31.82	7.16	0.00	17,407	180,024
Indan	C9H10	118	0.10	11.50	3.12	5.00	0.76	0.03	11.73	36.59	8.95	0.00	17,386	204,012
Indene	C9H8	116	0.10	11.00	3.03	4.00	0.62	0.03	11.54	35.00	7.16	0.00	17,158	197,924
Naphthalene	C10H8	128	0.10	12.00	3.00	4.00	0.56	0.04	12.73	38.19	7.16	0.00	16,708	212,671
Carbonyl sulfide	COS	60	0.270	1.50	0.80	0.00	0.00	0.05	16.11	12.89	0.00	17.18	3,933	63,360
Hydrogen Sulfide	H2S	34	0.103	1.50	1.41	1.00	0.53	0.01	3.48	4.92	1.84	6.56	6,545	22,793
Carbon Disulfide	CS2	76	0.130	3.00	1.26	0.00	0.00	0.03	9.82	12.41	0.00	16.55	5,814	57,122
Oxygen	O2	32	10.30	0.00	0.00	0.00	0.00	0.92	327.76	0.00	0.00	0.00	0	0
Nitrogen	N2	28	45.40	0.00	0.00	0.00	0.00	3.54	1,264.12	0.00	0.00	0.00	0	0
Hydrogen	H2	2	1.30	0.50	8.00	1.00	9.00	0.01	2.59	20.68	23.27	0.00	51,623	133,472
Methane	CH4	16	3.96	2.00	4.00	2.00	2.25	0.18	63.01	252.03	141.77	0.00	21,520	1,355,911
Carbon Monoxide	CO	28	0.50	0.50	0.57	0.00	0.00	0.04	13.92	7.96	0.00	0.00	4,347	60,519
Carbon Dioxide	CO2	44	0.50	0.00	0.00	0.00	0.00	0.06	21.88	0.00	0.00	0.00	0	0
Ethylene	C2H4	28	0.20	3.00	3.43	2.00	1.29	0.02	5.57	19.09	7.16	0.00	20,295	113,019
Ethane	C2H6	30	1.00	3.50	3.73	3.00	1.80	0.08	29.83	111.38	53.70	0.00	20,432	609,545
Water	H2O	18	34.80					1.74	622.91	0.00	622.91	0.00	0	0
Total	Total		100					7.05	2,517.44	864.58	950.89	40.29		4,255,596



Base line Temp = 100F (average temperature of waste gas and combustion air)

251,715	Heat absorbed by eductor steam (BTU/hr) = 0.5 * (Stack Temp, F - 281F) * mass flow rate, pph
344,874	Heat absorbed by non-eductor water vapor (BTU/hr) = (Stack Water Vapor - Eductor Steam) * (Stack Temp - 100) * 0.5
871,290	Heat absorbed by other combustion gasses (BTU/hr) = Stack Gas * (Stack Temp - 100) * 0.25
2,787,718	Heat recovery from waste gas combustion, BTU/hr

* Based on "CHICAGO WASTE GAS ANALYSIS SUMMARY", 5/22/1985


FROM PUMPS P-201/P-202
WET FEED
WASTE GAS
FROM PUMPS P-116/P-116A
OIL (SOLVENT)
OIL/SOLVENT WATER
TO VESSEL V-151
GEN. TRANSFER LINE
LDO
HDO
TO TANK 75
FLASH COLUMN V-201
PITCH
OIL REFLUX
OIL (SOLVENT) WATER
TOWER WATER
DEHYDRATOR CONDENSER E-208
DEHYDRATOR V-201
WET FEED
RCO
RCO REFLUX
RCO PUMP P-211
FROM PUMP P-111A
FROM PUMP P-111
TEMPERED WATER
VAP. LIQ. SEP.
RCO CONDENSER E-201
K/D CONDENSER E-204
SEAL OIL TANK V-206
E-208
PUMP P-218
PUMP P-219
SEAL-OIL
SEAL-OIL OVERFLOW
TAR/CREO VACUUM SYSTEM
DEHYDRATOR LOOP
GEN. TRANSFER LINE
RESIDUE COOLER E-211
PITCH
TO PITCH VALVE MANIFOLD
LDO CONDENSER E-202
LDO K/D CONDENSER E-205
FROM PUMP P-113A
LIGHT DISTILLATE OIL PUMP P-213
TO PUMP P-113
LDO REFLUX
DISTILLATE COLUMN V-209
HDO CONDENSER E-203
P-207
P-208
DEHYDRATOR PUMPS
STRAINER V-212
REBOILER PUMP P-210
REBOILER PUMP P-209
STRAINER V-211
REBOILER LOOP
REBOILER F-201
STEAM
NATURAL GAS
TAR COLUMN V-204
DRY FEED
DISTILLATE SIDE STREAM
MDO REFLUX
MDO
TO PUMP P-116A
TO PUMP P-116
MEDIUM DISTILLATE OIL PUMP P-216
TO PUMP P-320
FROM PUMP P-320
SEAL OIL TANK V-205
E-210
PUMP P-220
SEAL-OIL
FLASH VACUUM SYSTEM
HDO K/D CONDENSER E-206
HDO STORAGE
P-214
TO/FROM PUMPS P-114/P-114A
HDO
FROM TANK FARM
FUME SYSTEM V-2201 & V-2202
FLAME ARRESTOR
THERMAL OXIDIZER
QUENCHING AIR
NATURAL GAS
COMB. AIR
OXIDIZER F-2301
BLOWER B-2301
EXHAUST TO ATMOSPHERE
STACK
KNOCK OUT POT V-210
KNOCK OUT POT V-110
RESERVOIR POT V-710
P-125
P-125A
TO TANK 13 OR V-151
TO REBOILER F-101
FROM VESSEL V-151
FROM VESSELS V-105/V-106/V-151
KOPPERS
Pittsburgh, Pennsylvania 15219
COPYRIGHT © KOPPERS INC. 2007
DWG. NO. BCH-0067
REV 2 01-24-12

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, January 20, 2012 1:59 PM
To: Han, Wei
Cc: Patel, Minesh; 'Bernie Evans'
Subject: RE: #2 Tube Heater "Reconstruction"

Wei,

Thanks. How about we call at 10:00 am if that time does not work let us know. Have a great weekend.

Stephanie

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, January 20, 2012 1:57 PM
To: Flynn Stephanie M
Cc: Patel, Minesh
Subject: RE: #2 Tube Heater "Reconstruction"

Stephanie,

Minesh and I can talk to you and Bernie Evans on Monday. Since he is not here today, let's assume the time will work for him. If not, we will let you know on Monday morning. Thank you.

Wei Han, Permit Engineer
BOA/Illinois EPA
1201 North Grand Avenue E.
Springfield, IL 62794

Phone: 217-785-1890
Email: Wei.Han@Illinois.gov

From: Flynn Stephanie M [mailto:FlynnSM@koppers.com]
Sent: Friday, January 20, 2012 11:29 AM
To: Han, Wei
Cc: 'Bernie Evans'
Subject: RE: #2 Tube Heater "Reconstruction"

Wei,

Can Bernie Evans, ERM and I give you a call sometime between 9:30 and 11:30 am on Monday to discuss your email.

Thanks,

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481

FlynnSM@Koppers.com

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, January 20, 2012 10:08 AM
To: Flynn Stephanie M
Cc: bernie.evans@erm.com; Patel, Minesh; Romaine, Chris
Subject: #2 Tube Heater "Reconstruction"

Hi, Stephanie,

Additional information is needed to support this application:

1. Data for the actual flow rate of "process gas" from the No. 2 Tar Still to the existing heater.

2. Data for the actual sulfur content of this process gas.

3. Date for the heat content of this process gas.

4. Detailed supporting calculations for the actual SO2 emissions of the No. Tar Still during the baseline time period.

5. A simple diagram of the tube heater describing its layout, including burner(s),* combustion chamber and convection section, where tar is heated.

   * In particular, are natural gas and process gas "pre-mixed" before being introduced to the burner, or is process gas separately introduced into the heater? If the latter, the location at which process gas enters the tube heater needs to be shown on the diagram.

6. A discussion supporting classification of the "Naphthalene Heater" as an existing emission unit. In particular, this heater is not currently permitted to operate by the CAAPP permit for the source and has been out of service for almost 20 years.

7. A discussion whether the reconstructed (new) heater should be considered a fuel combustion emission unit or a control device for the Tar Still, or both, with justification.

The need for this information became apparent when it was realized that the new natural gas fired burner for the tube heater represented the total "fuel input" to the tube heater. As such the emission information in the application would indicate an SO2 emission rate of approximately 3 lbs of SO2/mmBtu from the tube heater, comparing the hourly SO2 rate, 41.4 lbs/hr, and the maximum fuel heat input, 14 mmBtu/hr. This is in excess of the emission rate that would be allowed for the unit as a fuel combustion by 35 IAC 214.122(b)(1) and 214.162(a) and (c)(1), i.e., emissions of 1.0 lb of SO2 per mmBtu for only the heat input from the process gas.

Thank you.

Wei Han, Permit Engineer
BOA/Illinois EPA
1201 North Grand Avenue E.
Springfield, IL 62794

Phone: 217-785-1890
Email: Wei.Han@Illinois.gov

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Friday, January 20, 2012 11:29 AM
To: Han, Wei
Cc: 'Bernie Evans'
Subject: RE: #2 Tube Heater "Reconstruction"

Wei,

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Thanks,

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

From: Han, Wei [mailto:Wei.Han@Illinois.gov]
Sent: Friday, January 20, 2012 10:08 AM
To: Flynn Stephanie M
Cc: bernie.evans@erm.com; Patel, Minesh; Romaine, Chris
Subject: #2 Tube Heater "Reconstruction"

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Thank you.

Wei Han, Permit Engineer
BOA/Illinois EPA
1201 North Grand Avenue E.
Springfield, IL 62794

Phone: 217-785-1890
Email: Wei.Han@Illinois.gov

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Tuesday, January 17, 2012 3:01 PM
To: Han, Wei; Patel, Minesh
Subject: Netting Fee- Koppers
Attachments: Netting Fee Koppers 01 17 2012.pdf

Wei and Minesh,

The application fee form and check for $3000 is being sent overnight for tomorrow am delivery to the IEPA.

Thanks,
Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

KOPPERS

Date: January 12, 2012

483013493 60-162/433

Amount
*******3,000.00

Pay To The Order Of: ILLINOIS ST ENVIRON PROT AGEN

**** THREE THOUSAND AND 0/100

ILLINOIS ST ENVIRON PROT AGEN
AIR POLLUTION CONTRO
PO BOX 19506
SPRINGFIELD, IL 62794-9506

PNC Bank, N.A. 001
Jeannette PA

KOPPERS INC.

⑈483013493⑈ ⑆043016278⑆ 10288755833⑈

483 Koppers Inc. CMC Pittsburgh PA 483013493

SP CD	Vendor	Div	Our Audit	Your Inv No.	Inv Date	Inv Amount	Disc	Net Amount Payable
	940137016		PPI006027560	2011 TUBEHE	01/01/12	3,000.00		3,000.00

Total 3,000.00

OP-CK 401 IN

DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION
P.O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION

FOR AGENCY USE ONLY	
ID NUMBER:	
PERMIT #:	
COMPLETE ☐ INCOMPLETE ☐	DATE COMPLETE:
CHECK #:	ACCOUNT NAME:

THIS FORM IS TO BE USED BY ALL SOURCES TO SUPPLY FEE INFORMATION THAT MUST ACCOMPANY ALL CONSTRUCTION PERMIT APPLICATIONS. ***THIS APPLICATION MUST INCLUDE PAYMENT IN FULL TO BE DEEMED COMPLETE.*** MAKE CHECK OR MONEY ORDER PAYABLE TO THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY. SEND TO THE ADDRESS ABOVE. DO NOT SEND CASH. REFER TO INSTRUCTIONS (197-INST) FOR ASSISTANCE.

SOURCE INFORMATION

1) SOURCE NAME: Koppers Inc.	
2) PROJECT NAME: #2 Tube Heater Reconstr	3) SOURCE ID NO. (IF APPLICABLE): 031300AAJ
4) CONTACT NAME: Richard W. Wagner	5) CONTACT PHONE NUMBER: (708) 222-3483

FEE DETERMINATION

6) FILL IN THE FOLLOWING THREE BOXES AS DETERMINED IN SECTIONS 1 THROUGH 4 BELOW:

$ 0	+	$ 3,000	=	$ 3,000
SECTION 1 SUBTOTAL		SECTION 2, 3 OR 4 SUBTOTAL		GRAND TOTAL

SECTION 1: STATUS OF SOURCE / PURPOSE OF SUBMITTAL

7) YOUR APPLICATION WILL FALL UNDER ONLY ONE OF THE FOLLOWING SIX CATEGORIES DESCRIBED BELOW. CHECK THE BOX THAT APPLIES, ENTER THE CORRESPONDING FEE IN THE BOX TO THE RIGHT AND COPY THIS FEE INTO THE SECTION 1 SUBTOTAL BOX ABOVE. PROCEED TO APPLICABLE SECTIONS.

FOR PURPOSES OF THIS FORM:

- ***MAJOR SOURCE*** IS A SOURCE THAT IS REQUIRED TO OBTAIN A CAAPP PERMIT.
- ***SYNTHETIC MINOR SOURCE*** IS A SOURCE THAT HAS TAKEN LIMITS ON POTENTIAL TO EMIT IN A PERMIT TO AVOID CAAPP PERMIT REQUIREMENTS (E.G., FESOP).
- ***NON-MAJOR SOURCE*** IS A SOURCE THAT IS NOT A MAJOR OR SYNTHETIC MINOR SOURCE.

☒ EXISTING SOURCE WITHOUT STATUS CHANGE OR WITH STATUS CHANGE FROM SYNTHETIC MINOR TO MAJOR SOURCE OR VICE VERSA. ENTER $0 AND PROCEED TO SECTION 2.	$ 0 SECTION 1 SUBTOTAL
☐ EXISTING NON-MAJOR SOURCE THAT WILL BECOME SYNTHETIC MINOR OR MAJOR SOURCE. ENTER $5,000 AND PROCEED TO SECTION 4.	
☐ EXISTING MAJOR OR SYNTHETIC MINOR SOURCE THAT WILL BECOME NON-MAJOR SOURCE. ENTER $4,000 AND PROCEED TO SECTION 3.	
☐ NEW MAJOR OR SYNTHETIC MINOR SOURCE. ENTER $5,000 AND PROCEED TO SECTION 4.	
☐ NEW NON-MAJOR SOURCE. ENTER $500 AND PROCEED TO SECTION 3.	
☐ AGENCY ERROR. IF THIS IS A TIMELY REQUEST TO CORRECT AN ISSUED PERMIT THAT INVOLVES ONLY AN AGENCY ERROR AND IF THE REQUEST IS RECEIVED WITHIN THE DEADLINE FOR A PERMIT APPEAL TO THE POLLUTION CONTROL BOARD, THEN ENTER $0. SKIP SECTIONS 2, 3 AND 4. PROCEED DIRECTLY TO SECTION 5.	

SECTION 2: SPECIAL CASE FILING FEE

8) FILING FEE. IF THE APPLICATION ONLY ADDRESSES ONE OR MORE OF THE FOLLOWING, CHECK THE APPROPRIATE BOXES, ENTER $500 IN THE SECOND BOX UNDER FEE DETERMINATION ABOVE, SKIP SECTIONS 3 AND 4 AND PROCEED DIRECTLY TO SECTION 5. OTHERWISE, PROCEED TO SECTION 3 OR 4, AS APPROPRIATE.

- ☐ ADDITION OR REPLACEMENT OF CONTROL DEVICES ON PERMITTED UNITS
- ☐ PILOT PROJECTS/TRIAL BURNS BY A PERMITTED UNIT
- ☐ APPLICATIONS ONLY INVOLVING INSIGNIFICANT ACTIVITIES UNDER 35 IAC 201.210 (MAJOR SOURCES ONLY)
- ☐ LAND REMEDIATION PROJECTS
- ☐ REVISIONS RELATED TO METHODOLOGY OR TIMING FOR EMISSION TESTING
- ☐ MINOR ADMINISTRATIVE-TYPE CHANGE TO A PERMIT

THIS AGENCY IS AUTHORIZED TO REQUIRE AND YOU MUST DISCLOSE THIS INFORMATION UNDER 415 ILCS 5/39. FAILURE TO DO SO COULD RESULT IN THE APPLICATION BEING DENIED AND PENALTIES UNDER 415 ILCS 5 ET SEQ. IT IS NOT NECESSARY TO USE THIS FORM IN PROVIDING THIS INFORMATION. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

Printed on Recycled Paper
197-FEE

SECTION 3: FEES FOR CURRENT OR PROJECTED NON-MAJOR SOURCES

9) IF THIS APPLICATION CONSISTS OF A SINGLE NEW EMISSION UNIT OR NO MORE THAN TWO MODIFIED EMISSION UNITS, ENTER $500.	9)	
10) IF THIS APPLICATION CONSISTS OF MORE THAN ONE NEW EMISSION UNIT OR MORE THAN TWO MODIFIED UNITS, ENTER $1,000.	10)	
11) IF THIS APPLICATION CONSISTS OF A NEW SOURCE OR EMISSION UNIT SUBJECT TO SECTION 39.2 OF THE ACT (I.E., LOCAL SITING REVIEW); A COMMERCIAL INCINERATOR OR A MUNICIPAL WASTE, HAZARDOUS WASTE, OR WASTE TIRE INCINERATOR; A COMMERCIAL POWER GENERATOR; OR AN EMISSION UNIT DESIGNATED AS A COMPLEX SOURCE BY AGENCY RULEMAKING, ENTER $15,000.	11)	
12) IF A PUBLIC HEARING IS HELD (SEE INSTRUCTIONS), ENTER $10,000.	12)	
13) SECTION 3 SUBTOTAL (ADD LINES 9 THROUGH 12) TO BE ENTERED ON PAGE 1.	13)	0

SECTION 4: FEES FOR CURRENT OR PROJECTED MAJOR OR SYNTHETIC MINOR SOURCES

Application Contains Modified Emission Units Only	14) FOR THE FIRST MODIFIED EMISSION UNIT, ENTER $2,000.	14)	
	15) NUMBER OF ADDITIONAL MODIFIED EMISSION UNITS = _____ X $1,000.	15)	
	16) LINE 14 PLUS LINE 15, OR $5,000, WHICHEVER IS LESS.		16)
Application Contains New And/Or Modified Emission Units	17) FOR THE FIRST NEW EMISSION UNIT, ENTER $4,000.	17)	
	18) NUMBER OF ADDITIONAL NEW AND/OR MODIFIED EMISSION UNITS = _____ X $1,000.	18)	
	19) LINE 17 PLUS LINE 18, OR $10,000, WHICHEVER IS LESS.		19)
Application Contains Netting Exercise	20) NUMBER OF INDIVIDUAL POLLUTANTS THAT RELY ON A NETTING EXERCISE OR CONTEMPORANEOUS EMISSIONS DECREASE TO AVOID APPLICATION OF PSD OR NONATTAINMENT NSR = 1 X $3,000.		20) 3000
Additional Supplemental Fees	21) IF THE NEW SOURCE OR EMISSION UNIT IS SUBJECT TO SECTION 39.2 OF THE ACT (I.E., SITING); A COMMERCIAL INCINERATOR OR OTHER MUNICIPAL WASTE, HAZARDOUS WASTE, OR WASTE TIRE INCINERATOR; A COMMERCIAL POWER GENERATOR; OR ONE OR MORE OTHER EMISSION UNITS DESIGNATED AS A COMPLEX SOURCE BY AGENCY RULEMAKING, ENTER $25,000.		21)
	22) IF THE SOURCE IS A NEW MAJOR SOURCE SUBJECT TO PSD, ENTER $12,000.		22)
	23) IF THE PROJECT IS A MAJOR MODIFICATION SUBJECT TO PSD, ENTER $6,000.		23)
	24) IF THIS IS A NEW MAJOR SOURCE SUBJECT TO NONATTAINMENT (NAA) NSR, ENTER $20,000.		24)
	25) IF THIS IS A MAJOR MODIFICATION SUBJECT TO NAA NSR, ENTER $12,000.		25)
	26) IF APPLICATION INVOLVES A DETERMINATION OF CLEAN UNIT STATUS AND THEREFORE IS NOT SUBJECT TO BACT OR LAER, ENTER $5,000 PER UNIT FOR WHICH A DETERMINATION IS REQUESTED OR OTHERWISE REQUIRED. _____ X $5,000.		26)
	27) IF APPLICATION INVOLVES A DETERMINATION OF MACT FOR A POLLUTANT AND THE PROJECT IS NOT SUBJECT TO BACT OR LAER FOR THE RELATED POLLUTANT UNDER PSD OR NSR (E.G., VOM FOR ORGANIC HAP), ENTER $5,000 PER UNIT FOR WHICH A DETERMINATION IS REQUESTED OR OTHERWISE REQUIRED. _____ X $5,000.		27)
	28) IF A PUBLIC HEARING IS HELD (SEE INSTRUCTIONS), ENTER $10,000.		28)
29) SECTION 4 SUBTOTAL (ADD LINES 16 AND LINES 19 THROUGH 28) TO BE ENTERED ON PAGE 1.			29) 3000

SECTION 5: CERTIFICATION

NOTE: APPLICATIONS WITHOUT A SIGNED CERTIFICATION WILL BE DEEMED INCOMPLETE.

30) I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE INFORMATION CONTAINED IN THIS FEE APPLICATION FORM IS TRUE, ACCURATE AND COMPLETE.

BY: Richard W. Wagner
SIGNATURE

Plant Manager
TITLE OF SIGNATORY

Richard W. Wagner
TYPED OR PRINTED NAME OF SIGNATORY

1 / 17 / 12
DATE

Han, Wei

From: Flynn Stephanie M [FlynnSM@koppers.com]
Sent: Thursday, December 22, 2011 3:04 PM
To: Patel, Minesh; Han, Wei
Cc: 'Bernie Evans'; Flynn Stephanie M
Subject: Information requested- Koppers Inc.

Wei and Minesh,

Attached is the requested informaton. If you have any questions please contact myself or Bernie Evans at ERM, 414-289-9505.

Thanks,
Stephanie

Stephanie M. Flynn
Environmental Manager - Stickney Plant
Koppers Inc.
(708) 222-3481
FlynnSM@Koppers.com

The Crude Tar Distillation process consists of raw crude tar being distilled to achieve various refined products for sale or use in other processes at the facility.
The distillation is a continuous process and all emission steps in the process are captured and routed to a combined exhaust ventilation system. There are no uncontrolled process vents in the crude tar distillation process and the capture efficiency of the ventilation system is 100%. The combined exhaust ventilation system is then routed to either a thermal oxidizer or to one of two tube heaters (F101 and F201) for fuel value, depending on current energy needs and equipment availability.

The current project for which we are seeking an air construction permit will result in no modifications to the crude tar distillation process nor the waste gases generated in that process. This project is totally related to idling the existing #2 tube heater F201 that provides heat to the #2 still (TPDS2) in the tar distillation process and replacing it with a repaired Naphthalene heater (F001) and renaming it the #2 Tube Heater (F201). The #2 Tube Heater reconstruction (F201) will be repaired with a slightly larger burner (14 MMBtu/hr) and we are seeking a construction permit to provide for this change in tube heaters and related emissions.

As described in the first paragraph, the existing F201 tube heater also burns process gases from the still. The reconstructed #2 Tube Heater will be used in an identical way once it replaces the existing F201 tube heater. There will be no changes to the #2 Still unit and potential emissions generated from combustion of the still process gases in the reconstructed tube heater will remain unchanged and as permitted in the CAAPP Permit number 96030134.

Since the crude tar distillation process is not being modified, Koppers does not believe that the emissions from process gas are part of the #2 tube heater reconstruction project. But Koppers did include in the air construction permit application package for the #2 tube heater reconstruction a calculus that shows that, if considered part of the project, the change from past actual emissions to potential (allowable) emissions including the process gases would not exceed any PSD or new source review triggers. Even considering the process gas emissions, the project is not a major modification. Therefore, Koppers believes that netting across Koppers' Stickney complex is not required for the #2 tube heater reconstruction project.

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Attachment 1 - Table A - PSD Applicability Review
Still #2 Emissions as a Result of the Tube Heater Project
Koppers, Inc.
Stickney, Illinois

PSD Calculus - Past Actual Emissions to Potential Emissions From #2 Still

Still Emissions (combusted in Tube Heater) - Criteria Pollutants

Source	Hours of Operation	$PM/PM_{10}/PM_{2.5}$ Emissions (tpy)	SO_2 Emissions (tpy)	NO_X Emissions (tpy)	CO Emissions (tpy)	VOC Emissions (tpy)
No. 2 Still[1]	7839	0.44	162.13	11.55	1.33	5.02
Potential Emissions[2]	8760	0.50	181.19	12.91	1.49	5.61
Past Actual emissions to Potential Emissions		**0.05**	**19.05**	**1.36**	**0.16**	**0.59**
Contemporaneous Increases and Decreases (There are no decreases during this period)						
Thermal Oxidizer Permit No. 080400005 Issued 07/16/2008		2.00	2.00	2.00	2.00	0.70
Tar Storage Tank 100 Permit No. 09110045 Issued 02/04/2010		0.00	0.00	0.00	0.00	6.33
Contemporaneous Increases		**2.00**	**2.00**	**2.00**	**2.00**	**7.03**
Total Emission Changes During the Contemporaneous Period		*2.05*	*21.05*	*3.36*	*2.16*	*7.62*
PSD Significant Thresholds		*10/15/25*	*40.0*	*40.0*	*100.0*	*40.0*
PSD Applicable?		**No**	**No**	**No**	**No**	**No**

Note 1: Annual hours of operation determined from the highest 24-month period in the past 10 years (See TAB "24 Month Total Still Hours"

Note 2: Potential Emissions are from 8760 hours of #2 Still operations (See TAB "Tube Heater Criteria")

Current Title V Permit Emission Factors for Still #2

Pollutant	Emission Factor (lb/still hours operation)
$PM/PM_{10}/PM_{2.5}$	0.1133
SO_2	41.3667
NO_X	2.9467
CO	0.34
VOC	1.28

Attachment 1 - Table B

Koppers #2 Still Operating Hours - High 2 Years

Date	Still Operating Hours (Hr)	24 Month Total (Hr)	1 Year Average	
Jan-06	280			
Feb-06	108			
Mar-06	200			
Apr-06	420			
May-06	124			
Jun-06	372			
Jul-06	248			
Aug-06	251			
Sep-06	498			
Oct-06	543			
Nov-06	528			
Dec-06	728			4300
Jan-07	709			
Feb-07	559			
Mar-07	703			
Apr-07	407			
May-07	727			
Jun-07	710			
Jul-07	714			
Aug-07	744			
Sep-07	692			
Oct-07	710			
Nov-07	653			
Dec-07	574	12202	6101	7902
Jan-08	706	12628	6314	
Feb-08	612	13132	6566	
Mar-08	671	13603	6802	
Apr-08	677	13860	6930	
May-08	574	14310	7155	
Jun-08	672	14610	7305	
Jul-08	643.5	15006	7503	
Aug-08	633	15388	7694	
Sep-08	720	15610	7805	
Oct-08	576	15643	7821	
Nov-08	568.5	15683	7842	
Dec-08	522.5	15478	7739	7575.5
Jan-09	622	15391	7695	
Feb-09	635	15467	7733	
Mar-09	405	15169	7584	
Apr-09	916	15678	7839	
May-09	322	15273	7636	
Jun-09	682	15245	7622	
Jul-09	596	15127	7563	
Aug-09	662	15045	7522	
Sep-09	713	15066	7533	
Oct-09	595.5	14951	7476	
Nov-09	615.5	14914	7457	

Dec-09	583	14923	7461	7347
Jan-10	445	14662	7331	
Feb-10	439	14489	7244	
Mar-10	647	14465	7232	
Apr-10	616	14404	7202	
May-10	728	14558	7279	
Jun-10	692.5	14578	7289	
Jul-10	669	14604	7302	
Aug-10	744	14715	7357	
Sep-10	720	14715	7357	
Oct-10	713	14852	7426	
Nov-10	565	14848	7424	
Dec-10	619	14945	7472	7597.5

Highest 1-year average from Past Operations = 7839

Attachment 1 - Table 2 - Exhibit 240-5
Tube Heater Criteria Pollutant Emissions
Koppers, Inc.
Stickney, Illinois

Combustion Emissions - Criteria Pollutants

Source	Potential Hours of Operation	Heat Input Rating (Btu/hr)	Heating Value (Btu/scf)	$PM/PM_{10}/PM2.5$ Emissions (tpy)	SO_2 Emissions (tpy)	NO_X Emissions (tpy)	CO Emissions (tpy)	VOC Emissions (tpy)
No. 5 Tube Heater	8760	14,000,000	1,020	0.46	0.04	6.01	5.05	0.33

AP-42 Emission Factors

Pollutant	Emission Factor (in $lb/10^6$ scf natural gas)
$PM/PM_{10}/PM_{2.5}$	7.6
SO_2	0.6
NO_X	100
CO	84
VOC	5.5

Still Emissions (combusted in Tube Heater) - Criteria Pollutants

Source	Potential Hours of Operation	$PM/PM_{10}/PM_{2.5}$ Emissions (tpy)	SO_2 Emissions (tpy)	NO_X Emissions (tpy)	CO Emissions (tpy)	VOC Emissions (tpy)
No. 5 Tube Heater	8760	0.496	181.186	12.907	1.489	5.606

Current Title V Permit Emission Factors for Still #2

Pollutant	Emission Factor (lb/still hours operation)
$PM/PM_{10}/PM_{2.5}$	0.1133
SO_2	41.3667
NO_X	2.9467
CO	0.34
VOC	1.28